

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Jean-Claude Guerin and Pascal Malnoe  
Filed: Herewith  
For: Stereoscopic Camera Fitted with Means to Facilitate the  
Adjustment of its Optomechanical Parameters

## PRELIMINARY AMENDMENT

Hon. Commissioner for Patents  
Washington, D.C. 20231

Sir:

Please amend the above identified application as follows.

IN THE SPECIFICATION

Page 1, line 1, insert as title,

--STEREOSCOPIC CAMERA FITTED WITH MEANS TO FACILITATE THE  
ADJUSTMENT OF ITS OPTO-MECHANICAL PARAMETERS--

Page 1, line 6, insert new paragraph as follows.

--1. Field of the Invention

The present invention relates to a stereoscopic camera comprising means to facilitate the adjustment of its opto-mechanical parameters by an operator.--

Page 1 line 12, insert new paragraph as follows.

--A stereoscopic camera simultaneously films two views of the same scene, a left view and a right view, so as to obtain relief images of the scene. To this end, it generally comprises two cameras, called 2D cameras, each delivering images in two dimensions corresponding respectively to a left view and a right view of the scene filmed. The adjustment of a stereoscopic camera consists in adjusting the opto-mechanical parameters of each of the 2D cameras and the parameters fixing the position of the 2D cameras one with respect to the other. This consists, for example, in adjusting the distance separating the two 2D cameras, the angle between the axes of the two 2D cameras, (commonly called the convergence angle), the focal length and the focus of the two 2D cameras.--

09904165-071201

Page 1 line 34, insert new paragraph as follows.

--The aim of the invention is to facilitate the adjustment of the opto-mechanical parameters of a stereoscopic camera. To this end, the invention is a stereoscopic camera comprising first and second cameras intended to generate first and second sequences of images, respectively, each image of the said first sequence being associated with an image of the said second sequence, means to display a sequence of stereoscopic images from the said first and second sequences of images, first storage means in order to store respectively at least one image of the said first sequence of images and the associated image of the said second sequence of images, and first selection means placed upstream of the display means in order to selectively supply to the said display means either the said at least one stored image of the said first sequence of images and the associated stored image of the said second sequence of images, or the said first and second sequences of images coming from the said first and second cameras.--

Page 4 line 24, insert new paragraph as follows.

--Advantageously, the stereoscopic camera also comprises an additional storage circuit 20 in order to store values of control signals C1 and C2 of cameras 10 and 11, the stored signals C1 and C2 corresponding to a given adjustment of the stereoscopic camera. Thus, before altering the opto-mechanical parameters of the camera, the operator stores the control signals corresponding to a starting adjustment. He may then alter the value of these parameters in order to try to improve the adjustment. If he considers that the new adjustment is less beneficial than the starting adjustment, the operator can then recover the stored signals C'1 and C'2 which correspond to the starting adjustment. --

Page 7, delete Abstract and replace with amended Abstract supplied on separate sheet.

In the Claims:

Page 5 line 1, delete "CLAIMS" and replace with,

--What is claimed is:--

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Insert amended claims as follows.

1. (Amended) A stereoscopic camera comprising:

first and second cameras generating first and second sequences of images, respectively, each image of the said first sequence being associated with an image of the said second sequence;

means to display a sequence of stereoscopic images from said first and second sequences of images;

a first storage means storing at least one image of said first sequence of images and the associated image of said second sequence of images; and,

a first selection means placed upstream of the display means and for selectively supplying said display means either said at least one stored image of said first sequence of images and the associated stored image of said second sequence of images, or said first and second sequences of images from said first and second cameras.

2. (Amended) The stereoscopic camera according to Claim 1, wherein said camera further comprises:

first and second inputs in order to receive respectively third and fourth sequences of images coming from a piece of equipment external to said stereoscopic camera, each image of said third sequence being associated with an image of said fourth sequence; and,

a second selection means in order to selectively supply to said first storage means either said first and second sequences of images coming from said first and second cameras, or said third and fourth sequences of images coming from said external piece of equipment.

3. (Amended) The stereoscopic camera according to Claim 1, wherein said first storage means comprise two storage circuits in order for each one to store at least one image.

4. (Amended) The stereoscopic camera according to Claim 1, wherein said camera comprises a second storage means intended to store values representative of adjustment parameters of said first and second cameras, especially the values representative of the angle and the distance between said first and second cameras, their focal lengths and their respective focuses. --

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## --ABSTRACT

The invention relates to a stereoscopic camera comprising means to facilitate the adjustment of its opto-mechanical parameters by an operator. To this end, it comprises storage means (16, 17) in order to store at least one stereoscopic image and a selection means (18) in order to selectively supply to the display means of the camera either the stored stereoscopic image, or the current stereoscopic image filmed by the 2D cameras (10, 11) of the stereoscopic camera.--

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**AMENDMENT WITH MARKING TO SHOW CHANGES MADE**

Page 1, line 1

STEREOSCOPIC CAMERA FITTED WITH MEANS TO FACILITATE THE  
ADJUSTMENT OF ITS [OPTOMECHANICAL] OPTO-MECHANICAL PARAMETERS

Page 1, line 6

## 1. Field of the Invention

The present invention relates to a stereoscopic camera comprising means to facilitate the adjustment of its [optomechanical] opto-mechanical parameters by an operator.

Page 1 line 12

A stereoscopic camera simultaneously films two views of the same scene, a left view and a right view, so as to obtain relief images of the scene. To this end, it generally comprises two cameras, called 2D cameras, each delivering images in two dimensions corresponding respectively to a left view and a right view of the scene filmed. The adjustment of a stereoscopic camera consists in adjusting the [optomechanical] opto-mechanical parameters of each of the 2D cameras and the parameters fixing the position of the 2D cameras one with respect to the other. This consists, for example, in adjusting the distance separating the two 2D cameras, the angle between the axes of the two 2D cameras, (commonly called the convergence angle), the focal length and the focus of the two 2D cameras.

Page 1 line 34

The aim of the invention is to facilitate the adjustment of the [optomechanical] opto-mechanical parameters of a stereoscopic camera. To this end, the invention is a stereoscopic camera comprising first and second cameras intended to generate first and second sequences of images, respectively, each image of the said first sequence being associated with an image of the said second sequence, means to display a sequence of stereoscopic images from the said first and second sequences of images, first storage means in order to store respectively at least one image of the said first sequence of images and the associated image of the said second sequence of images, and first selection means placed upstream of the display means in order to selectively supply to the said display means either the said at least one stored image of the said first sequence of images and the associated stored image of the said second sequence of images, or the said first and second sequences of images coming from the said first and second cameras.

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Page 4 line 24

Advantageously, the stereoscopic camera also comprises an additional storage circuit 20 in order to store values of control signals C1 and C2 of cameras 10 and 11, the stored signals C1 and C2 corresponding to a given adjustment of the stereoscopic camera. Thus, before altering the [optomechanical] opto-mechanical parameters of the camera, the operator stores the control signals corresponding to a starting adjustment. He may then alter the value of these parameters in order to try to improve the adjustment. If he considers that the new adjustment is less beneficial than the starting adjustment, the operator can then recover the stored signals C'1 and C'2 which correspond to the starting adjustment.

Page 5 line 1

[CLAIMS]

--What is claimed is:--

1. A stereoscopic camera comprising:

[-] first and second cameras [(10, 11)] [intended to generate] generating first and second sequences of images, respectively, each image of the said first sequence being associated with an image of the said second sequence[,], and

[-] means [(14)] to display a sequence of stereoscopic images from [the] said first and second sequences of images;

[-] a first storage means [(6, 17) in order to store respectively] storing at least one image of [the] said first sequence of images and the associated image of [the] said second sequence of images[,], and,

[-] a first selection means [(18)] placed upstream of the display means and [intended to] for selectively [supply] supplying [to the] said display means [(14)] either [the] said at least one stored image of [the] said first sequence of images and the associated stored image of [the] said second sequence of images, or [the] said first and second sequences of images [coming] from [the] said first and second cameras [(10, 11)].

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2. [A] The stereoscopic camera according to Claim 1, wherein said camera further comprises:

[-] first and second inputs [(12, 13)] in order to receive respectively third and fourth sequences of images coming from a piece of equipment external to [the] said stereoscopic camera, each image of [the] said third sequence being associated with an image of [the] said fourth sequence[.]; and,

[-] a second selection means [(15)] in order to selectively supply to [the] said first storage means [(16, 17)] either [the] said first and second sequences of images coming from the said first and second cameras [(10, 11)], or [the] said third and fourth sequences of images coming from [the] said external piece of equipment.

3. The stereoscopic camera according to Claim 1, wherein [the] said first storage means [(16, 17)] comprise two storage circuits in order for each one to store at least one image.

4. The stereoscopic camera according to Claim 1, wherein said camera comprises a second storage means [(19)] intended to store values representative of adjustment parameters of [the] said first and second cameras [(10, 11)], especially the values representative of the angle and the distance between [the] said first and second cameras, their focal lengths and their respective focuses.

#### ABSTRACT

[Stereoscopic camera fitted with means to facilitate the adjustment of its optomechanical parameters]

The invention relates to a stereoscopic camera comprising means to facilitate the adjustment of its [optomechanical] opto-mechanical parameters by an operator. To this end, it comprises storage means (16, 17) in order to store at least one stereoscopic image and a selection means (18) in order to selectively supply to the display means of the camera either the stored stereoscopic image, or the current stereoscopic image filmed by the 2D cameras (10, 11) of the stereoscopic camera.

[Single Figure]

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REMARKS

Pages 1, 4 and 5 of the application have been amended to correct typographical errors. Claims 1 thru 4 are amended to meet the requirements of U.S. Patent Office practice. No new matter has been added.

Respectfully submitted,  
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July 12, 2001

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